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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/521,845	03/09/2000	Janos Szanyi	1434A2	3769

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PPG INDUSTRIES INC
INTELLECTUAL PROPERTY DEPT
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PITTSBURGH, PA 15272

EXAMINER

PIZIALI, ANDREW T

ART UNIT	PAPER NUMBER
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1775

DATE MAILED: 03/12/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/521,845

Applicant(s)

SZANYI ET AL.

Examiner

Andrew T Piziali

Art Unit

1775

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 09 March 2000.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-61 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-16, 18-57 and 59-61 is/are rejected.
- 7) ☒ Claim(s) 17 and 58 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) <u>4-7</u> . | 6) <input type="checkbox"/> Other: |

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DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-16, 18-44, 49-53 and 59-61 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The claims fail to set forth the specific compositions of the first coating surface, and/or the second coating surface, and/or the at least one breaker layer, and/or the graded color suppression layer. Claims merely setting forth physical characteristics desired in article, and not setting forth specific compositions which would meet such characteristics, are invalid as vague, indefinite, and functional since they cover any conceivable combination of ingredients either presently existing or which might be discovered in future and which would impart desired characteristics.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 45-48 and 54-57 are rejected under 35 U.S.C. 103(a) as being unpatentable over US Patent No. 6,218,018 to McKown.

Regarding claims 45-48, McKown discloses a glass substrate coated by a first layer of

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antimony doped tin oxide coated by a second layer of fluorine doped tin oxide (column 5, lines 3-32). McKown discloses that the antimony doped tin oxide layer has a thickness of 800-3000 angstroms and that the fluorine doped tin oxide layer has a thickness of 2000-4500 angstroms (column 9, lines 17-21). McKown fails to disclose a dopant gradient with only one dopant, but McKown does disclose that it is known in the art to use a dopant gradient within a tin oxide layer (column 9, lines 40-56). McKown also discloses that by varying the dopant in the antimony doped tin oxide layer the absorption of the layer can be controlled (column 6, lines 57-68). It would have been obvious to one having ordinary skill in the art at the time the invention was made to use dopant gradient comprising at least two stratas of different antimony concentrations, because by varying the dopant in the antimony doped tin oxide layer the absorption of the layer can be controlled.

Regarding claims 54-57, McKown discloses that it is known in the art to use a dopant gradient that transitions from one dopant to another within a tin oxide layer (column 9, lines 40-56), because by varying the dopant concentration the absorption of the NIR layer (antimony doped tin oxide) and the reflectance of the low emissivity layer (fluorine doped tin oxide) can be varied (column 6, lines 57-68). It would have been obvious to one having ordinary skill in the art at the time the invention was made to transition the first coating layer into the second layer of McKown, because the dopant gradient allows for variation in the absorption and reflectance characteristics of the coated article.

Allowable Subject Matter

4. Claims 1, 6, 16, 18, 26, 41-42, 49, 59-61 would be allowable if rewritten or amended to overcome the rejection(s) under 35 U.S.C. 112, second paragraph, set forth in this Office action.

The closest prior art is US Patent No. 6218018 to McKown. McKown discloses a glass substrate coated by a first layer of antimony doped tin oxide and a second layer of fluorine doped tin oxide (column 5, lines 3-32), but fails to mention or suggest the use of at least one breaker layer between the first and second coating surfaces. It would not have been obvious to one having ordinary skill in the art at the time the invention was made to include at least one breaker layer between the first and second coating surfaces, because it was not known that a breaker layer would reduce epitaxial growth of the second coating surface.

5. Claims 2-5, 7-15, 19-25, 27-40, 43-44 and 50-53 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, second paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

6. Claims 17 and 58 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Andrew Piziali whose telephone number is (703) 306-0145 and whose fax number is (703) 746-7037. The examiner can normally be reached on Monday-Friday (8:00-4:30).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Deborah Jones can be reached on (703) 308-3822. The fax numbers for the organization where this application or proceeding is assigned are (703) 872-9310 for regular communications and (703) 872-9311 for After Final communications.

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Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 306-5665.

atp

March 1, 2002


DEBORAH JONES
SUPERVISORY PATENT EXAMINER